

December 30, 2010

Tom Colligan Floyd Snider 601 Union Street, Suite 600 Seattle, WA 98101-2341

RE: Project: Jorgensen Forge PLO ARI Job No: SC18 (revised 1/21/11)

Dear Tom:

Please find enclosed analytical results and Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted six water samples on December 22, 2010. The samples were received in good condition.

The samples were analyzed for total metals and general chemistry parameters, as requested on the COC.

No analytical complications were noted for these analyses. Quality control results are included for your review.

A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem

Client Services Manager

kellyb@arilabs.com

206-695-6211

Enclosures

cc: eFile SC18

KB/kb

Chain of Custody Record & Laboratory Analysis Request

Tom Colligan Client Project Name: Torguson Forge PLO Cleanout Client Project #: P2 To Coolers: Temps: D. J. Analysis Requested Notes/Comment	ts
1 × 1 0	
Client Project #: P2 TO Sample ID Date Samplers: Client Project #: Sample ID Date Time Matrix No. Containers Time Matrix No. Containers Time No. Containers Time No. Containers	
JF. PISD-SW-24A 12/22/10 8:05 SW 3	
JE-PSD-SW-24B \ 8130 SW 3 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
JF-PLSD-SW-37-7 8150 SW 3	
JF-PLSD-SW-372 9:15 SW 3	
JF PLSD-SW-Public 9:45 SW 3	
JF-PLSD-SW-Public P 9:45 SW 3	
Comments/Special Instructions Relinquished by: (Signature) Received by: (Signature) Received by: (Signature) (Signature) Received by: (Signature)	
Printed Name: Printed Name: Printed Name: Printed Name: Printed Name:	
Signature) Frinted Name: Printed Name: Printed Name: Printed Name: Company: Company: Company: Company: Printed Name: Company:	
Date & Tirgle: Date &	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or cosigned agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Cooler Receipt Form

ARI Client: Floyd S	nider	Project Name: Jovens	on Fora	e PLO	Claano
COC No(s):	(NA)	Delivered by: Fed-Ex UPS Co.	rier Hand Deli	vered Other:	
Assigned ARI Job No: SC	18	Tracking No:			(A)
Preliminary Examination Phase	:	Tracking tree			
Were intact, properly signed and	I dated custody seals attached to	the outside of to cooler?		YES	NO
	vith the cooler?			(YES)	NO
• • •	lled out (ink, signed, etc.)			√ES	NO
	recommended 2.0-6.0 °C for cher				140
If cooler temperature is out of co		<u>J.</u>	Toma Cun li	D#: 909	dTGO
·		Date: 12/22/10 Tim	•	D#	TIW!
Cooler Accepted by:			e: <u>1160</u>		
Les la Dhessa	Complete custody forms	and attach all shipping documents			
Log-In Phase:					
Was a temperature blank include	ed in the cooler?			YES	NO
What kind of packing material	was used? Bubble Wrap	Wet Ice Gel Packs Baggies Foam	Block Paper	Other:	
Was sufficient ice used (if appro	priate)?		NA	YES	NO
Were all bottles sealed in individ	ual plastic bags?			YES	NO
Did all bottles arrive in good con	dition (unbroken)?			(YES)	NO
Were all bottle labels complete a	and legible?			(FES)	NO
Did the number of containers list	ted on COC match with the numb	per of containers received?		(ES)	NO
				(YES)	NÓ
	the requested analyses?				NO
		eservation sheet, excluding VOCs)	NA	(YES)	NO
	ibbles?		(NA)	YES	NO
•	e sent in each bottle?			(YES)	NO
	\sim		(NA)		· · · · · · · · ·
Was Sample Split by ARI:	YES Date/Time:	Equipment:		Split by:_	 .
Samples Logged by:	Date	: 17/27/10 Time:	1115		
		er of discrepancies or concerns **			
Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sam	ple ID on CO	
- Complete on Botto	33.1.5.3.15.01.000	- Campin is on some	- Julia		-
			 		
			 		
			 		
Additional Notes, Discrepance	ies, & Resolutions:		<u> </u>		
	•				l
	•				
	Pate:				
Small Air Bubbles Peabul -2nm 2-4 m	II Canon and and and a	Small → "sm"			
		Peabubbles → "pb"			
		Large → "lg"			
j		Headspace → "hs"			

0016F 3/2/10 Cooler Receipt Form

Revision 014

PRESERVATION VERIFICATION 12/22/10

Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

Inquiry Number: NONE

Analysis Requested: 12/22/10

Contact: Colligan, Tom Client: Floyd/Snider

Logged by: JM

Sample Set Used: Yes-440 Validatable Package: No

Deliverables:

ARI Job No: SC18

PC: Sue D. VTSR: 12/22/10

Project #: P2J0

Project: Jorgenson Forge PLO Cleanout

Sample Site:

SDG No:

Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102	DMET FLT	PARAMETER	ADJUSTE:	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-31771 SC18A	JF-PLSD-SW-24A						TOT													
10-31772 sc18B	JF-PLSD-SW-24B						TOT													
10-31773 sc18c	JF-PLSD-SW-37-7						тот													
10-31774 SC18D	JF-PLSD-SW-37-2						тот													
10-31775 SC18E	JF-PLSD-SW-Public						тот													
10-31776 sc18F	JF-PLSD-SW-Public-D						TOF			·										



TOTAL METALS

Page 1 of 1

Lab Sample ID: SC18MB

LIMS ID: 10-31771

Matrix: Stormwater
Data Release Authorized

Reported: 12/27/10

Sample ID: METHOD BLANK

QC Report No: SC18-Floyd/Snider

Project: Jorgenson Forge PLO Cleanout

P2J0

Date Sampled: NA Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	12/22/10	6010B	12/23/10	7440-70-2	Calcium	0.05	0.05	U
3010A	12/22/10	6010B	12/23/10	7439-95-4	Magnesium	0.05	0.05	U
3010A	12/22/10	6010B	12/23/10	7440-09-7	Potassium	0.5	0.5	U
3010A	12/22/10	6010B	12/23/10	7440-23-5	Sodium	0.5	0.5	U

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Sample ID: JF-PLSD-SW-24A

SAMPLE

Lab Sample ID: SC18A

LIMS ID: 10-31771

Matrix: Stormwater

Data Release Authorized Reported: 12/27/10

QC Report No: SC18-Floyd/Snider

Project: Jorgenson Forge PLO Cleanout

P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	12/22/10	6010B	12/23/10	7440-70-2	Calcium	0.05	15.4	
3010A	12/22/10	6010B	12/23/10	7439-95-4	Magnesium	0.05	21.8	
3010A	12/22/10	6010B	12/23/10	7440-09-7	Potassium	0.5	7.5	
3010A	12/22/10	6010B	12/23/10	7440-23-5	Sodium	0.5	176	

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Sample ID: JF-PLSD-SW-24B

SAMPLE

Lab Sample ID: SC18B LIMS ID: 10-31772

QC Report No: SC18-Floyd/Snider

Project: Jorgenson Forge PLO Cleanout

P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Matrix: St	tormwater	\mathcal{A}_{A}
Data Relea	tormwater ase Authorize	ed////
Reported:	12/27/10	

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	12/22/10	6010B	12/23/10	7440-70-2	Calcium	0.05	18.2	
3010A	12/22/10	6010B	12/23/10	7439-95-4	Magnesium	0.05	31.1	
3010A	12/22/10	6010B	12/23/10	7440-09-7	Potassium	0.5	10.4	
3010A	12/22/10	6010B	12/23/10	7440-23-5	Sodium	0.5	256	

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Sample ID: JF-PLSD-SW-37-7

SAMPLE

Lab Sample ID: SC18C

LIMS ID: 10-31773

Matrix: Stormwater

Data Release Authorized

Reported: 12/27/10

QC Report No: SC18-Floyd/Snider

Project: Jorgenson Forge PLO Cleanout

P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	12/22/10	6010B	12/23/10	7440-70-2	Calcium	0.05	18.1	
3010A	12/22/10	6010B	12/23/10	7439-95-4	Magnesium	0.05	31.1	
3010A	12/22/10	6010B	12/23/10	7440-09-7	Potassium	0.5	10.6	
3010A	12/22/10	6010B	12/23/10	7440-23-5	Sodium	0.5	259	

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Sample ID: JF-PLSD-SW-37-2

SAMPLE

Lab Sample ID: SC18D LIMS ID: 10-31774

Matrix: Stormwater

Data Release Authorized

Reported: 12/27/10

QC Report No: SC18-Floyd/Snider

Project: Jorgenson Forge PLO Cleanout

P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L Q
3010A	12/22/10	6010B	12/23/10	7440-70-2	Calcium	0.05	17.2
3010A	12/22/10	6010B	12/23/10	7439-95-4	Magnesium	0.05	28.4
3010A	12/22/10	6010B	12/23/10	7440-09-7	Potassium	0.5	9.6
3010A	12/22/10	6010B	12/23/10	7440-23-5	Sodium	0.5	233

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Sample ID: JF-PLSD-SW-Public

SAMPLE

Lab Sample ID: SC18E LIMS ID: 10-31775

Matrix: Stormwater

Data Release Authorized

Reported: 12/27/10

QC Report No: SC18-Floyd/Snider

Project: Jorgenson Forge PLO Cleanout

P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	12/22/10	6010B	12/23/10	7440-70-2	Calcium	0.05	19.6	
3010A	12/22/10	6010B	12/23/10	7439-95-4	Magnesium	0.05	32.3	
3010A	12/22/10	6010B	12/23/10	7440-09-7	Potassium	0.5	11.0	*
3010A	12/22/10	6010B	12/23/10	7440-23-5	Sodium	0.5	272	

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Sample ID: JF-PLSD-SW-Public-D

SAMPLE

Lab Sample ID: SC18F LIMS ID: 10-31776

Matrix: Stormwater

Data Release Authorized

Reported: 12/27/10

QC Report No: SC18-Floyd/Snider

Project: Jorgenson Forge PLO Cleanout

P2JO

Date Sampled: 12/22/10 Date Received: 12/22/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L Q
3010A	12/22/10	6010B	12/23/10	7440-70-2	Calcium	0.05	20.9
3010A	12/22/10	6010B	12/23/10	7439-95-4	Magnesium	0.05	34.2
3010A	12/22/10	6010B	12/23/10	7440-09-7	Potassium	0.5	11.7
3010A	12/22/10	6010B	12/23/10	7440-23-5	Sodium	0.5	291

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: SC18LCS

LIMS ID: 10-31771

Matrix: Stormwater

Data Release Authorized:

Reported: 12/27/10

QC Report No: SC18-Floyd/Snider Project: Jorgenson Forge PLO Cleanout

P2JO

Date Sampled: NA Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Calcium	6010B	9.72	10.0	97.2%	
Magnesium	6010B	9.87	10.0	98.7%	
Potassium	6010B	10.1	10.0	101%	
Sodium	6010B	9.9	10.0	99.0%	

Reported in mg/L

N-Control limit not met Control Limits: 80-120%

METHOD BLANK RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized

Reported: 03/02/11

Project: Jorgenson Forge PLO Cleanout

Event: P2J0

Date Sampled: NA Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Conductivity	EPA 120.1	12/23/10	umhos/cm	< 1.00 U	
Salinity	SM 2520.B	12/23/10	ppt	< 0.10 U	
Chloride	EPA 300.0	12/23/10	mg/L	< 0.1 U	
Sulfate	EPA 300.0	12/23/10	mg/L	< 0.1 U	

SC18:00013 R 83/3/1

SAMPLE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized:

Reported: 03/02/11



Project: Jorgenson Forge PLO Cleanout

Event: P2J0 Date Sampled: 12/22/10 Date Received: 12/22/10

Client ID: JF-PLSD-SW-24A ARI ID: 10-31771 SC18A

Analyte	Date Batch	Method	Units	RL	Sample	
Нд	12/22/10 122210#1	EPA 150.1	std units	0.01	6.81	
Alkalinity	12/22/10 122210#1	SM 2320	mg/L CaCO3	1.0	37.8	
Carbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Bicarbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	37.8	
Hydroxide	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Conductivity	12/23/10 122310#1	EPA 120.1	umhos/cm	1.00	1,130	
Salinity	12/23/10 122310#1	SM 2520.B	ppt	0.10	0.60	
Chloride	12/23/10 122310#1	EPA 300.0	mg/L	10.0	311	
Sulfate	12/23/10 122310#1	EPA 300.0	mg/L	10.0	40.4	

Analytical reporting limit RL

Water Sample Report-SC18

SCIO: DEDING

U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized:

Reported: 03/02/11

Project: Jorgenson Forge PLO Cleanout

Event: P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Client ID: JF-PLSD-SW-24B ARI ID: 10-31772 SC18B

Analyte	Date Batch	Method	Units	RL	Sample	
рН	12/22/10 122210#1	EPA 150.1	std units	0.01	6.78	
Alkalinity	12/22/10 122210#1	SM 2320	mg/L CaCO3	1.0	38.2	
Carbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Bicarbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	38.2	
Hydroxide	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Conductivity	12/23/10 122310#1	EPA 120.1	umhos/cm	1.00	1,590	
Salinity	12/23/10 122310#1	SM 2520.B	ppt	0.10	0.80	
Chloride	12/23/10 122310#1	EPA 300.0	mg/L	10.0	477	
Sulfate	12/23/10 122310#1	EPA 300.0	mg/L	10.0	60.0	

RL Analytical reporting limit

Water Sample Report-SC18

SC16:00015R

U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized:

Reported: 03/02/11

Project: Jorgenson Forge PLO Cleanout

Event: P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Client ID: JF-PLSD-SW-37-7 ARI ID: 10-31773 SC18C

Analyte	Date Batch	Method	Units	RL	Sample	
рН	12/22/10 122210#1	EPA 150.1	std units	0.01	6.88	
Alkalinity	12/22/10 122210#1	SM 2320	mg/L CaCO3	1.0	38.9	
Carbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Bicarbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	38.9	
Hydroxide	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Conductivity	12/23/10 122310#1	EPA 120.1	umhos/cm	1.00	1,630	
Salinity	12/23/10 122310#1	SM 2520.B	ppt	0.10	0.80	
Chloride	12/23/10 122310#1	EPA 300.0	mg/L	10.0	490	
Sulfate	12/23/10 122310#1	EPA 300.0	mg/L	10.0	62.5	

RL Analytical reporting limit

Water Sample Report-SC18

SC18:00015 R

U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized:

Reported: 03/02/11

d: (M)

Project: Jorgenson Forge PLO Cleanout

Event: P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Client ID: JF-PLSD-SW-37-2 ARI ID: 10-31774 SC18D

Analyte	Date Batch	Method	Units	RL	Sample	
рН	12/22/10 122210#1	EPA 150.1	std units	0.01	6.96	
Alkalinity	12/22/10 122210#1	SM 2320	mg/L CaCO3	1.0	32.4	
Carbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Bicarbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	32.4	
Hydroxide	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Conductivity	12/23/10 122310#1	EPA 120.1	umhos/cm	1.00	1,490	
Salinity	12/23/10 122310#1	SM 2520.B	ppt	0.10	0.70	
Chloride	12/23/10 122310#1	EPA 300.0	mg/L	10.0	441	
Sulfate	12/23/10 122310#1	EPA 300.0	mg/L	10.0	54.5	

RL Analytical reporting limit

Water Sample Report-SC18

SC18:00017k

U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized: Reported: 03/02/11

Project: Jorgenson Forge PLO Cleanout

Event: P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Client ID: JF-PLSD-SW-Public ARI ID: 10-31775 SC18E

Analyte	Date Batch Meth		Units	RL	Sample
Нд	12/22/10 122210#1	EPA 150.1	std units	0.01	6.85
Alkalinity	12/22/10 122210#1	SM 2320	mg/L CaCO3	1.0	39.2
Carbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	39.2
Hydroxide	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Conductivity	12/23/10 122310#1	EPA 120.1	umhos/cm	1.00	1,700
Salinity	12/23/10 122310#1	SM 2520.B	ppt	0.10	0.90
Chloride	12/23/10 122310#1	EPA 300.0	mg/L	20.0	519
Sulfate	12/23/10 122310#1	EPA 300.0	mg/L	20.0	64.9

RLAnalytical reporting limit

Water Sample Report-SC18

SC18:00018R

Undetected at reported detection limit U

SAMPLE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Matrix: Stormwater

Data Release Authorized:

Reported: 03/02/11

Project: Jorgenson Forge PLO Cleanout

Event: P2J0

Date Sampled: 12/22/10 Date Received: 12/22/10

Client ID: JF-PLSD-SW-Public-D ARI ID: 10-31776 SC18F

Analyte	Date Batch	Method	Units	RL	Sample	
рН	12/22/10 122210#1	EPA 150.1	std units	0.01	6.74	
Alkalinity	12/22/10 122210#1	SM 2320	mg/L CaCO3	1.0	38.8	
Carbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Bicarbonate	12/22/10	SM 2320	mg/L CaCO3	1.0	38.8	
Hydroxide	12/22/10	SM 2320	mg/L CaCO3	1.0	< 1.0 U	
Conductivity	12/23/10 122310#1	EPA 120.1	umhos/cm	1.00	1,750	
Salinity	12/23/10 122310#1	SM 2520.B	ppt	0.10	0.90	
Chloride	12/23/10 122310#1	EPA 300.0	mg/L	20.0	529	
Sulfate	12/23/10 122310#1	EPA 300.0	mg/L	20.0	67.8	

RLAnalytical reporting limit

Undetected at reported detection limit

Water Sample Report-SC18

SC18:00019 k

LAB CONTROL RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized: (Reported: 03/02/11



Project: Jorgenson Forge PLO Cleanout

Event: P2J0 Date Sampled: NA Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
pH EPA 150.1	ICVL	12/22/10	std units	6.99	7.00	0.01
Salinity SM 2520.B	ICVL	12/23/10	ppt 4	3,400	47,600	91.2%

 $\ensuremath{\text{pH}}$ is evaluated as the Absolute Difference between the values rather than Percent Recovery.

STANDARD REFERENCE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized: ()

Reported: 03/02/11



Project: Jorgenson Forge PLO Cleanout

Event: P2JO
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	12/22/10	mg/L CaCO3	99.5	102	97.5%
Conductivity Ricca #3193	EPA 120.1	12/23/10	umhos/cm	984	1,000	98.4%
Chloride ERA #230109	EPA 300.0	12/23/10	mg/L	3.0	3.0	100.0%
Sulfate ERA #220109	EPA 300.0	12/23/10	mg/L	3.0	3.0	100.0%

SC18:00021R

REPLICATE RESULTS-CONVENTIONALS SC18-Floyd/Snider



Matrix: Stormwater

Data Release Authorized:

Reported: 03/02/11

Project: Jorgenson Forge PLO Cleanout

Event: P2JO
Date Sampled: 12/22/10
Date Received: 12/22/10

Analyte	Method	Method Date		Sample	Replicate(s)	RPD/RSD	
ARI ID: SC18A	Client ID: JF-PLSD-	SW-24A					
рн	EPA 150.1	12/22/10	std units	6.81	6.79	0.02	
Alkalinity	SM 2320	12/22/10	mg/L CaCO3	37.8	37.5	0.8%	
Carbonate	SM 2320	12/22/10	mg/L CaCO3	< 1.0	< 1.0	NA	
Bicarbonate	SM 2320	12/22/10	mg/L CaCO3	37.8	37.5	0.8%	
Hydroxide	SM 2320	12/22/10	mg/L CaCO3	< 1.0	< 1.0	NA	
Chloride	EPA 300.0	12/23/10	mg/L	311	317	1.9%	
Sulfate	EPA 300.0	12/23/10	mg/L	40.4	42.1	4.1%	
ARI ID: SC18B	Client ID: JF-PLSD-	-SW-24B					
Conductivity	EPA 120.1	12/23/10	umhos/cm	1,590	1,600	0.6%	
Salinity	SM 2520.B	12/23/10	ppt	0.80	0.80	0.0%	

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

Water Replicate Report-SC18

SC18:00022 R



January 21, 2011

Tom Colligan Floyd Snider 601 Union Street, Suite 600 Seattle, WA 98101-2341

RE: Project: Jorgensen Forge PLO

ARI Job No: SD56

Dear Tom:

Please find enclosed analytical results and the original and a revised copy of the Chain of Custody documentation (COC) for the project referenced above. Analytical Resources, Incorporated (ARI) accepted one water sample on January 6, 2011. The samples were received in good condition.

The samples were analyzed for total metals and general chemistry parameters, as requested.

No analytical complications were noted for these analyses. Quality control results are included for your review.

A copy of the reports and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please contact me at your convenience.

Sincerely,

ANALYTICAD RESOURCES, INC.

Client Services Manager kellyb@arilabs.com

206-695-6211

Enclosures

cc: eFile SD56

KB/kb

Page 1 of____

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around	MAAN	À		Page:		of	1		A		Analytic	cal Resources, Incorporated cal Chemists and Consultants
ARI Client Company: Swider	, ,	Phone: 9	1-2078		Date:		Ice Prese	ent?		7		4611 Sc	outh 134th Place, Suite 100 , WA 98168
Client Contact: USU Meoli /TEMF	loya	eri.flo 15a, mes	adefin	d Swider. U Swider.	CONO. of Coolers:	\	Coole Temp	s: つ.	3	*****		206-695-6200 206-695-6201 (fax)	
Client Project Name: Bolung Nawt 2	Ĭ							Analysis I	Requested				Notes/Comments
Client Contact: USA MEOLI / TEM F Client Project Name: DOLLY MANT 2 Client Project#: BP2-B06 MILL TASK	Samplers:	Lisa K	<u>leoli</u>			25	ž		2				
Sample ID	Date	Time	Matrix	No. Containers	Alkatinishy	AMINS	Cations	tid	Salinh				
LDW-Stilling Well	1/6/11	13:00	&W	3									
J.													`
	:												
			-1-1				- 						
										· ·			
· ·													
		4.											
Comments/Special Instructions	Relinculated by:	heral	2	Received by: (Signature)				Relinguished (Signature)	by:		1	Received by:	
	Printed Name:	<u>mar</u>	<u>ب</u> ب	Printed Name	. ,			Printed Name	9;	<u> </u>		(Signature) Printed Name	<u>>:</u>
	Lisa	Meo	4	A Company:	<u>. Volo(</u>	ngn	20	Company:				~	
	Company:	Soude	4-	AX	ય ઇ		·	AnnihasiA;				Company:	William Control of the Control of th
	Date & Tirpe:	14120		Date & Timpe:	1	1420		Date & Time:				Date & Time:	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:			Page: of				Analytical Resources, Incorporated Analytical Chemists and Consultants				
ARI Client Company:		Phone:			Date		Ice Prese				4611 So Tukwila.	uth 134th Place, Suite 100 - VVA 98168
Client Corract: Lovin Colligan	Nick 6	arsony	W////		Cooler Temps:			107 kg		-6200 206-695-6201 (fax)		
Client Project Name: 47/11 (IX	Jorga	usen Fo	rao Pi					Analysis I	Requested			Notes/Comments
Client Project Name: 47/11 (2) JOYANSEN FORGE PLO (3) Client Project#: 47/11 (5) Samplers: 4.52 MEO!				The state of the s	\			18.3				
7KPL2JOPCID Sample ID	Date	Time	Matrix	NoContainers	est.		CAPAIN	City and the second sec	TU H V	1		
LOW-Shiting Well	ijujit	多)30	Ç.,y	ā	المستحصيرة الم	شسمورة	*مالمسها	السيب ا	Parameter Park 1"			
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Comments/Special Instructions	Relinquished by:			Received by	er. m			Relinquished	by:		Received by:	
	(Signature)	لياستمي أنسأ ارام	i.	(Signature,	e La proprieda de la companya de la c	Service Control		(Signature)			(Signature)	
	Printed Name. Printed Nat		Parted Name;	33.5			Printed Nam	9)		Partied Name		
	Company:	I Carlo		Company:	<u> </u>			Сотралу:			Company:	- 4
	Date & Time:	14:20		Date & Tigne:		1420		Date & Time:			Date & Time:	

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or cosigned agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

PRESERVATION VERIFICATION 01/06/11

Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: SD56

PC: Kelly VTSR: 01/06/11

Inquiry Number: NONE

Analysis Requested: 01/06/11

Contact: Ernst, Will

Client: The Boeing Company

Logged by: AV

Sample Set Used: Yes-440 Validatable Package: No

Deliverables:

Project #: BP@2-BOE CMI11 Task 1.1

Project: Boeing Plant 2

Sample Site:

SDG No:

Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG ≤2	MET <2	PHEN:	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
11-298 SD56A	LDM-Stilling Well						707 767															



Cooler Receipt Form

ARI Client: BORNO	Project Name: BORM	Plant 2	L.
COC No(s): (NA)	Delivered by: Fed-Ex UPS Couri	er Hand Delivered Othe	er:
Assigned ARI Job No:SD56	Tracking No:	· · · · · · · · · · · · · · · · · · ·	(NA)
reliminary Examination Phase:	*		
Were intact, properly signed and dated custody seals attached to	the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	. 6) 63.13 p. e.	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	11.401.402.01.442.01.474.474.47.474.544	(YES	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chen			
If cooler temperature is out of compliance fill out form 00070F		Temp Gun ID#: 900	74/1019
Cooler Accepted by:	Date: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1420	
	and attach all shipping documents		
og-In Phase:	and attach an ampping occurrents		
Was a temperature blank included in the cooler?	Annual Control of the	YES	NO.
	Wet Ice Gel Packs Baggies Foam		
Was sufficient ice used (if appropriate)?	•	NA (YES)	NO
Were all bottles sealed in individual plastic bags?	•	YES	(NO)
Did all bottles arrive in good condition (unbroken)?		YES	NO.
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the numb		YES	NO
Did all bottle labels and tags agree with custody papers?	a i par que par a granda en esta propria de la seria de la companya de la companya de la companya de la company	₹ES	NO
Were all bottles used correct for the requested analyses?	***************************************	(YES	NO
Do any of the analyses (bottles) require preservation? (attach pre	eservation sheet, excluding VOCs)	NA (YES	NO
Were all VOC vials free of air bubbles?	a = = = = = = = = = = = = = = = = = = =	(NA) YES	NO
Was sufficient amount of sample sent in each bottle?	معمد مدمود مستقد و فها مومدة في والمائه و المائه و المائ 	(YES)	NO
Date VOC Trip Blank was made at ARI	na en anandena ka las el evila estava fila vign en ara en en	(NA)	
Was Sample Split by ARI: NA YES Date/Time:	Equipment:	Split by	,
Av.	Aledu	1435	
	:Time;	7932	
** Noury Project Manage	er of discrepancies or concerns **		re de la recorda
Sample ID on Bottle Sample ID on COC	Sample ID on Bottle	Sample ID on (coe
and the second s			
Additional Notes, Discrepancies, & Resolutions:		<u> </u>	
Additional Notes, Discrepancies, & Resolutions:			
Distr. Date:		,	
By: Date: Small Air Bubbles Peabubbles LARGE Air Bubbles	Small → "sm"		
-2mm 2-4 mm > 4 mm	Peabubbles → "pb"	<u> </u>	
	Large > "lg"		

SAMPLE RESULTS-CONVENTIONALS SD56-The Boeing Company



Matrix: Stormwater

Data Release Authorized:

Reported: 01/21/11

1: (

Project: Jorgensen Forge PLO Event: 7KPL2JOR

Date Sampled: 01/06/11 Date Received: 01/06/11

Client ID: LDW-Stilling Well ARI ID: 11-298 SD56A

Analyte	Date Batch	Method	Units	RL	Sample
рH	01/06/11 010611#1	EPA 150.1	std units	0.01	6.73
Alkalinity	01/07/11 010711#1	SM 2320	mg/L CaCO3	1.0	55.2
Carbonate	01/07/11	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Bicarbonate	01/07/11	SM 2320	mg/L CaCO3	1.0	55.2
Hydroxide	01/07/11	SM 2320	mg/L CaCO3	1.0	< 1.0 U
Conductivity	01/11/11 011111#1	EPA 120.1	umhos/cm	1.00	7,400
Salinity	01/11/11 011111#1	SM 2520.B	ppt	0.10	4.00
Chloride	01/18/11 011811#1	EPA 300.0	mg/L	100	2,510
Sulfațe	01/08/11 010811#1	EPA 300.0	mg/L	10.0	363

RL Analytical reporting limit

U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS SD56-The Boeing Company



Matrix: Stormwater

Data Release Authorized:

Reported: 01/21/11

Project: Jorgensen Forge PLO Event: 7KPL2JOR

Date Sampled: NA

Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Conductivity	EPA 120.1	01/11/11	umhos/cm	< 1.00 U	*
Salinity	SM 2520.B	01/11/11	ppt	< 0.10 U	
Chloride	EPA 300.0	01/18/11	mg/L	< 0.1 U	
Sulfate	EPA 300.0	01/08/11	mg/L	0.10	

LAB CONTROL RESULTS-CONVENTIONALS SD56-The Boeing Company



Matrix: Stormwater
Data Release Authorized:
Reported: 01/21/11

Project: Jorgensen Forge PLO

Event: 7KPL2JOR

Date Sampled: NA Date Received: NA

Analyte/Method	QC ID	Date	Units LCS	Spike Added	Recovery
рН ЕРА 150.1	ICVL	01/06/11 s	td.units 7.02	7.00	0.02
Salinity SM 2520.B	ICVL	01/11/11	ppt 43,300	47,600	91.0%

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

STANDARD REFERENCE RESULTS-CONVENTIONALS SD56-The Boeing Company



Matrix: Stormwater

Data Release Authorized Reported: 01/21/11

Project: Jorgensen Forge PLO Event: 7KPL2JOR

Date Sampled: NA Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Alkalinity ERA #P114506	SM 2320	01/07/11	mg/L CaCO3	99.4	102	97.5%
Conductivity Ricca #3193	EPA 120.1	01/11/11	umhos/cm	993	1,000	99.3%
Chloride ERA #230109	EPA 300.0	01/18/11	mg/L	3.1	3.0	103.3%
Sulfate ERA #220109	EPA 300.0	01/08/11	mg/L	3.1	3.0	103.3%

REPLICATE RESULTS-CONVENTIONALS SD56-The Boeing Company



Matrix: Stormwater

Data Release Authorized: Reported: 01/21/11

Project: Jorgensen Forge PLO

Event: 7KPL2JOR Date Sampled: 01/06/11 Date Received: 01/06/11

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: SD56A	Client ID: LDW-St			- Military de de diseas antenes e commente e	ammer er de franche - finnen - forenn van vann van Bronne - finnennen - vir i da ver er van	
рН	EPA 150.1	01/06/11	std units	6.73	6.74	0.01
Alkalinity	SM 2320	01/07/11	mg/L CaCO3	55.2	55.3	0.2%
Carbonate	SM 2320	01/07/11	mg/L CaCO3	< 1.0	< 1.0	NÀ
Bicarbonate	SM 2320	01/07/11	mg/L CaCO3	55.2	55.3	0.2%
Hydroxide	SM 2320	01/07/11	mg/L CaCO3	< 1.0	< 1.0	NA
Conductivitý	EPA 120.1	01/11/11	umhos/cm	7,400	7,400	0.0%
Salinity	SM 2520.B	01/11/11	ppt	4.00	4.00	0.0%

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference



TOTAL METALS

Page 1 of 1

Lab Sample ID: SD56A

LIMS ID: 11-298

Matrix: Stormwater

Data Release Authorized: (1)

Reported: 01/14/11

Sample ID: LDW-Stilling Well

SAMPLE

QC Report No: SD56-The Boeing Company

Project: Jorgensen Forge PLO

7KPL2JOR

Date Sampled: 01/06/11 Date Received: 01/06/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	01/07/11	6010B	01/10/11	7440-70-2	Calcium	0.05	62.5	
3010A	01/07/11	601 0B	01/10/11	7439-95-4	Magnesium	0.05	163	
3010A	01/07/11	6010B	01/10/11	7440-09-7	Potassium	0.5	53,4	
3010A	01/07/11	6010B	01/10/11	7440-23-5	Sodium	0.5	1,460	

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Lab Sample ID: SD56MB

LIMS ID: 11-298

Matrix: Stormwater Data Release Authorized:

Reported: 01/14/11

Sample ID: METHOD BLANK

QC Report No: SD56-The Boeing Company

Project: Jorgensen Forge PLO

7KPL2JOR

Date Sampled: NA Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	01/07/11	6010B	01/10/11	7440-70-2	Calcium	0.05	0.05	U
3010A	01/07/11	6010B	01/10/11	7439-95-4	Magnesium	0.05	0.05	Ü
3010A	01/07/11	6010B	01/10/11	7440-09-7	Potassium	0.5	0.5	Ū
3010A	01/07/11	6010B	01/10/11	7440-23-5	Sodium	0.5	0.5	Ü

U-Analyte undetected at given RL RL-Reporting Limit



TOTAL METALS

Page 1 of 1

Lab Sample ID: SD56LCS

LIMS ID: 11-298

Matrix: Stormwater
Data Release Authorized:

Reported: 01/14/11

Sample ID: LAB CONTROL

QC Report No: SD56-The Boeing Company

Project: Jorgensen Forge PLO

7KPL2JOR

Date Sampled: NA Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Calcium	6010B	10.1	10.0	101%	
Magnesium	6010B	10.4	10.0	104%	
Potassium	:6010B	10:6	10.0	106%	
Sødium	6010B	10.7	10.0	107%	

Reported in mg/L

N-Control limit not met Control Limits: 80-120%